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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,254	12/10/2001	Randolph E. Crutchfield	5038-142	4414

32231 7590 11/16/2005

MARGER JOHNSON & MCCOLLOM, P.C.
210 SW MORRISON STREET, SUITE 400
PORTLAND, OR 97204

EXAMINER

YANCHUS III, PAUL B

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/016,254	Applicant(s) CRUTCHFIELD ET AL.	
	Examiner Paul B. Yanchus	Art Unit 2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,9-16 and 18-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,9-16 and 18-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 9-15 and 18-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art [AAPA], in view of Gilbert, US Patent Application Publication no. 2001/0003205¹.

Regarding claim 1, AAPA discloses a system for sharing power in a computer peripheral device, comprising:

a power supply interface adapted to receive an external bus power source [page 2, lines 28-29];

a local power supply [internal power supply, page 2, lines 29-30]; and

a load draw selection module to request additional power from the external bus power source if the power requirements of the peripheral device exceeds a set power threshold [device seeks permission to connect to bus as a high power device, page 3, lines 10-14].

AAPA does not disclose a power sharing circuit coupled to the local power supply and to the power supply interface, the power sharing circuit structured to selectively provide power to the peripheral device from the local power supply or from the external bus power source or from both simultaneously. Gilbert discloses a power sharing circuit structured to selectively provide

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power to a peripheral device from a local power supply or from an external bus power source or from both simultaneously [paragraphs 0023 and 0024]. It would have been obvious to one of ordinary skill in the art to modify the AAPA system to include the Gilbert power sharing circuit in order to reduce the expense and complexity of the local power source by allowing the local power source to be rechargeable battery instead of an external power source [Gilbert, paragraphs 0005-0007].

Regarding claims 2 and 3, Gilbert discloses that the power sharing circuit provides power to the peripheral device from the external bus during low power demand periods [paragraph 0023].

Regarding claim 4, AAPA discloses that a USB low power device draws a limit of 500mW [$5V * 100mA = 500mW$] of power from the bus [page 1, lines 23-27].

Regarding claims 9 and 10, AAPA discloses that the external bus power source is a Universal Serial Bus [page 1, lines 16-18].

Regarding claim 11, AAPA discloses that the local power supply may comprise a transformer [page 2, lines 16-17].

Regarding claim 12, AAPA discloses a peripheral device comprising:

a load circuit for consuming power in the peripheral device [internal load circuitry, page 1, lines 28-31];

a power supply interface adapted to receive an external bus power source [page 2, lines 28-29];

a local power supply [internal power supply, page 2, lines 29-30]; and

¹ cited in previous office action

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a load draw selection module to request additional power from the external bus power source if the power requirements of the peripheral device exceeds a set power threshold [device seeks permission to connect to bus as a high power device, page 3, lines 10-14].

AAPA does not disclose a power sharing circuit coupled to the local power supply and to the power supply interface, the power sharing circuit structured to selectively provide power to the peripheral device from the local power supply or from the external bus power source or from both simultaneously. Gilbert discloses a power sharing circuit structured to selectively provide power to a peripheral device from a local power supply or from an external bus power source or from both simultaneously [paragraphs 0023 and 0024]. It would have been obvious to one of ordinary skill in the art to modify the AAPA system to include the Gilbert power sharing circuit in order to reduce the expense and complexity of the local power source by allowing the local power source to be rechargeable battery instead of an external power source [Gilbert, paragraphs 0005-0007].

Regarding claims 13 and 14, Gilbert discloses that the power sharing circuit provides power to the peripheral device from the external bus during low power demand periods [paragraph 0023].

Regarding claim 15, Gilbert discloses supplying power to load circuitry from a combination of the external bus power and the local power source [paragraphs 0023 and 0024].

Regarding claims 18 and 19, AAPA discloses that the external bus power source is a Universal Serial Bus [page 1, lines 16-18].

Regarding claim 20, AAPA discloses a method for providing power to a load circuit in a peripheral device comprising:

providing from a bus power source external to the peripheral device power requirements of the load circuit up to a threshold amount of power; and

a load draw selection module to request additional power from the external bus power source if the power requirements of the peripheral device exceeds a set power threshold [device seeks permission to connect to bus as a high power device, page 3, lines 10-14].

AAPA does not disclose providing from a combination of the external bus power source and from an external power source other than the external bus power source the power requirements of the load circuit if the power requirements of the load circuit exceed the threshold amount. Gilbert discloses providing from a combination of the external bus power source and from an external power source other than the external bus power source the power requirements of the load circuit if the power requirements of the load circuit exceed the threshold amount [paragraphs 0023 and 0024]. It would have been obvious to one of ordinary skill in the art to modify the AAPA system to include the Gilbert power sharing circuit in order to reduce the expense and complexity of the local power source by allowing the local power source to be rechargeable battery instead of an external power source [Gilbert, paragraphs 0005-0007].

Regarding claims 21 and 22, AAPA discloses that the external bus power source is a Universal Serial Bus [page 1, lines 16-18].

Regarding claims 23 and 24, AAPA discloses a method for providing power to a load circuit in a peripheral device comprising:

providing from a bus power source external to the peripheral device power requirements of the load circuit up to a threshold amount of power; and

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requesting the external power source to provide all the power requirements of the load circuit above the threshold amount [device seeks permission to connect to bus as a high power device, page 3, lines 10-14].

AAPA does not disclose providing from a combination of the external bus power source and from an external power source other than the external bus power source the power requirements of the load circuit if the power requirements of the load circuit exceed the threshold amount. Gilbert discloses providing from a combination of the external bus power source and from an external power source other than the external bus power source the power requirements of the load circuit if the power requirements of the load circuit exceed the threshold amount [paragraphs 0023 and 0024]. It would have been obvious to one of ordinary skill in the art to modify the AAPA system to include the Gilbert power sharing circuit in order to reduce the expense and complexity of the local power source by allowing the local power source to be rechargeable battery instead of an external power source [Gilbert, paragraphs 0005-0007].

Regarding claims 25 and 28, AAPA discloses a method of providing power to a load circuit in a computer peripheral device, comprising:

providing an initial amount of power to the load circuit from an external bus source [low power device draws less than 100mA of power, page 1, lines 24-25];

allowing the load circuit to increase the amount of power drawn from the external bus source [low power device may increase its power draw from the bus until the draw reaches 100mA]; and

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requesting the external power source to provide all the power requirements of the load circuit above the threshold amount [device seeks permission to connect to bus as a high power device, page 3, lines 10-14].

AAPA does not disclose monitoring the amount of power drawn from the external bus source; and adding power from a local external power source to the amount of power drawn from the external bus source once the amount of power drawn from the external bus source exceeds a threshold level. Gilbert discloses monitoring the amount of power drawn from the external bus source; and adding power from a local external power source to the amount of power drawn from the external bus source once the amount of power drawn from the external bus source exceeds a threshold level [paragraphs 0023 and 0024]. It would have been obvious to one of ordinary skill in the art to modify the AAPA system to include the Gilbert power sharing circuit in order to reduce the expense and complexity of the local power source by allowing the local power source to be rechargeable battery instead of an external power source [Gilbert, paragraphs 0005-0007].

Regarding claims 26 and 27, AAPA discloses that the external bus power source is a Universal Serial Bus [page 1, lines 16-18].

Regarding claim 29, AAPA discloses that the local power supply may comprise a transformer [page 2, lines 16-17].

Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert, US Patent Application Publication no. 2001/0003205², in view of Kawade et al., US Patent no. 6,810,481 [Kawade].

² cited in previous office action

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Regarding claims 5 and 16, Gilbert discloses a system for sharing power in a computer peripheral device, comprising:

a load circuit for consuming power in the peripheral device [primary-function module, paragraph 0023];

a power supply interface adapted to receive an external bus power source [bus power, paragraph 0023];

a local power supply [battery, paragraph 0023]; and

a power sharing circuit structured to selectively provide power to a peripheral device from a local power supply or from an external bus power source or from both simultaneously [paragraphs 0023 and 0024].

Gilbert does not disclose a suspend circuit to disconnect the computer peripheral device from the external power source responsive to a signal from the external power source. However, as disclosed by Kawade, a device complying with the USB specification must be able to support a transition to a suspend mode in which no power is supplied to the device [column 6, lines 8-22]. It would have been obvious to one of ordinary skill in the art to include suspend circuitry in the Gilbert USB device in order to ensure that the device is compliant with the USB specification.

* Examiner notes that independent claims 1, 12, 20, 23, 25 and 28 appear to be missing subject matter that is critical to defining the Applicant's invention. Specifically, claims 1, 12, 20, 23, 25 and 28 are missing the limitation: temporarily providing additional power to the peripheral device from the local power supply while the peripheral device requests additional

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power from the external bus power source if the power requirements of the peripheral device exceed a power threshold.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B. Yanchus whose telephone number is (571) 272-3678.

The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Yanchus
November 9, 2005



A. ELAMIN
PRIMARY EXAMINER